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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,654	04/18/2000	James T Loch III	3525-74	8308

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EXAMINER

WRIGHT, SONYA N

ART UNIT	PAPER NUMBER
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1626

DATE MAILED: 05/20/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/529,654

Applicant(s)

LOCH III ET AL.

Examiner

Sonya Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-56 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 44, 47, 49, 51 and 53-56 is/are rejected.
- 7) ☒ Claim(s) 45, 46, 48, 50, and 52 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This action is in response to Applicant's amendment filed 4-24-03. Claims 11-14, 16, 42, and 43 have been canceled. Claims 44-56 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 44, 47, 49, 51, 53, 54, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,110,914, Phillips et al., which is a 371 of WO 9903859 (PCT/SE98/01364). Applicant discloses substituted amines of spirofuropyridines useful in treating disorders involving reduced cholinergic function such as Alzheimer's disease.

Determination of the scope and content of the prior art (MPEP §2141.01)

Phillips et al. disclose spiroazabicyclic heterocyclic compounds which are useful in the treatment of disorders involving reduced cholinergic function such as Alzheimer's disease. Phillips et al. generically disclose the instant compounds in the '914 patent, in column 1, lines 45-67 and column 2, lines 1-27. Phillips et al. teach the method of use and compositions of the instant compounds in column 1, lines 8-13 of the '914 patent. Phillips et al. teach species that are similar to the instant compounds in a CAS ONLINE structure display of WO 9903859. See answer 15, RN 220100-73-2 and answer 27, RN 220100-57-2. RN 220100-73-2 generically teaches the instant claims when, in the

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instant claims, R is hydrogen and C1-C4 alkyl; and when R1 is $-(CH_2)_nAr$, Ar is phenyl, and n is 0.

RN 220100-57-2 generically teaches the instant claims when, in the instant claims R is hydrogen, and C1-C4 alkyl; and when R1 is $-(CH_2)_nAr$, Ar is phenyl, and n is 0 to 3.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

RN 220100-73-2 differs from the instant claims because the $-NHPh$ group in RN 220100-73-2 is in the 4 position on the phenyl while the $-NHPh$ group in the instant claims is limited to the 5 or 6 position on the phenyl. Therefore, the instant compounds are positional isomers of RN 220100-73-2.

RN 220100-57-2 differs from the instant compounds because the species 5'-N-benzylaminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine], wherein R is hydrogen, R1 is $(CH_2)_nAr$, n is 1 and Ar is phenyl, has been excluded from the claims. However, the claims disclose that n can be 2, and 3, therefore, the instant compounds are homologs of RN 220100-57-2. Also, in RN 220100-57-2, the $-NH(CH_2)Ph$ group is in the 5-position, while in the instant claims the $-N(CH_2)Ph$ group is in the 5 or the 6 position. RN 220100-57-2 suggests that the $-N(CH_2)Ph$ group can be in the 5 or the 6 position.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2143)

However, nothing unobvious is seen in substituting the known claimed isomer for the structurally similar isomer, as taught by Phillips et al., since such structurally related

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compounds suggest one another and would be expected to share common properties absent a showing of unexpected results. In re Norris, 84 USPQ 458 (1950).

To those skilled in chemical art, one homologue is not such an advance over adjacent member of series as requires invention because chemists knowing properties of one member of series would in general know what to expect in adjacent members. In re Henze, 85 USPQ 261 (1950). The instantly claimed compounds would have been obvious because one of ordinary skill in the art would have been motivated to prepare homologues of the compounds taught in the reference in the expectation that compounds which are similar in structure and which vary by the length of an alkyl group would have a similar use. Therefore, the instant claimed compounds would have been suggested to one skilled in the art.

Claim Objections

Claims 45, 46, 48, 50, and 52 are objected to as being dependent upon a rejected base claim.

Response to Arguments

Applicant's arguments filed 4-24-03 have been fully considered and have been found persuasive with respect to the rejection under 35 U.S.C. 102(e) made in the office action dated 6-14-02, but they are not persuasive with respect to the rejection under 35 U.S.C. 103 made in the office action dated 6-14-02. Applicant argues that No claim corresponding to now canceled 43 is presented, and that in claim 44, the compound RN220100-57-2 (5'-N-benzylaminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine]) is expressly excluded from the scope of the claim by proviso.

The rejection under 35 U.S.C. 103 is maintained in view of the following:

RN 220100-73-2 differs from the instant claims because the -NHPh group in RN 220100-73-2 is in the 4 position on the phenyl while the -NHPh group in the instant claims is limited to the 5 or 6 position on the phenyl. Therefore, the instant compounds are positional isomers of RN 220100-73-2.

RN 220100-57-2 differs from the instant compounds because the species 5'-N-benzylaminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine], wherein R is hydrogen, R1 is (CH₂)_nAr, n is 1 and Ar is phenyl, has been excluded from the claims. However, the claims disclose that n can be 2, and 3, therefore, the instant compounds are homologs of RN 220100-57-2. Also, in RN 220100-57-2, the -NH(CH₂)Ph group is in the 5-position, while in the instant claims the -N(CH₂)Ph group is in the 5 or the 6 position. RN 220100-57-2 suggests that the -N(CH₂)Ph group can be in the 5 or the 6 position. Therefore, the instant compounds are suggested by Phillips et al..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonya Wright, whose telephone number is (703) 308-4539. The examiner can normally be reached on Monday-Friday from 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph K. McKane, can be reached at (703) 308-4537. The Unofficial fax phone number for this Group is (703) 308-7922. The Official fax phone numbers for this Group are (703) 308-4556 or 305-3592.

When filing a FAX in Technology Center 1600, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [joseph.mckane@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via Internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-1235.



Joseph K. McKane

Supervisory Patent Examiner

Group 1600

Sonya Wright

May 16, 2003